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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/561,358	12/19/2005	Masaru Shinohara	59383US007	5956
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3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				
EXAMINER				
FEELY, MICHAEL J				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
04/10/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com  
LegalDocketing@mmm.com

### Office Action Summary

**Application No.**

10/561,358

**Applicant(s)**

SHINOHARA ET AL.

**Examiner**

Michael J. Feely

**Art Unit**

1796

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Pending Claims***

Claims 1-5 are pending.

***Response to Amendment***

1. The rejection of claims 1 and 3 under 35 U.S.C. 102(b) as being anticipated by Knapp (US Pat. No. 3,284,423) has been overcome by amendment.
2. The rejection of claims 1-4 under 35 U.S.C. 102(b) as being anticipated by Liu et al. (US Pat. No. 4,762,747) has been overcome by amendment.
3. The rejection of claims 1, 2, and 4 under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US 2003/0124346 A1) has been overcome by amendment.
4. The rejection of claim 3 under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US 2003/0124346 A1) in view of Groves (US 5,229,206) has been overcome by amendment.

***Claim Rejections - 35 USC § 102/103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 1, 3, and 5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Knapp (US Pat. No. 3,284,423) *(and further in light of Sobataka et al. (US H688))*.

Regarding claims 1 and 3, Knapp discloses: *(1)* a heat resistant masking tape (column 4, lines 32-61), comprising: (1) a heat resistant backing film layer (column 4, lines 32-46); and (2) a

pressure-sensitive adhesive layer disposed on the heat resistant backing film layer (column 4, lines 52-61), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a *non-aqueous* monomer mixture comprising an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (column 4, lines 52-61), glycidyl (meth)acrylate (column 4, lines 52-61), and (meth)acrylic acid (column 4, lines 52-61), the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers (column 4, lines 52-61) and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers (column 4, lines 52-61); and (3) wherein said heat resistant backing film layer is a layer of polyethylene terephthalate, polyethylene naphthalate, polyphenylene sulfide or polyimide (column 4, lines 32-46).

Knapp fails to explicitly disclose: (a) a surface treated film layer. However, it should be noted that this is a product-by-process limitation. It has been found that, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process,” – *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (*see MPEP 2113*).

Therefore, it appears that the tape of Knapp inherently or obviously satisfies the instant invention because all of the material limitations have been satisfied. This is the case regardless of whether or not the film is *generically* (*not chemically*) treated.

Alternatively, the instant invention would have been obviously satisfied in light of Sobataka et al. They disclose that corona discharge is recognized in the art as a suitable treatment for PET films. The corona discharge improves surface characteristics, such as adhesive properties of the PET films (*see column 1, lines 6-11*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide surface treatment to the films of Knapp, as taught by Sobataka et al., because the teachings of Sobataka et al. demonstrate that corona discharge is recognized in the art as suitable treatment for PET films, improving surface characteristics, such as adhesive properties of the films.

Regarding claim 5, the prior art is as set forth above an incorporated herein to inherently or obviously satisfy the instant invention.

7. Claims 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated or, in the alternative, under 35 U.S.C. 103(a) as obvious over Liu et al. (US Pat. No. 4,762,747).

Regarding claims 1-4, Liu et al. disclose: (1) a heat resistant masking tape (column 6, lines 40-58), comprising: (1) a heat resistant backing film layer (column 6, lines 50-58); and (2) a pressure-sensitive adhesive layer disposed on the heat resistant backing film layer (column 6, lines 40-49), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (column 6, lines 40-49), glycidyl (meth)acrylate (column 6, lines 40-49), and (meth)acrylic acid (column 6, lines 40-49), the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of

monomers (column 6, lines 40-49) and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers (column 6, lines 40-49); (2) wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100  $\mu\text{m}$  (column 6, lines 50-58); (3) wherein said heat resistant backing film layer is a layer of polyethylene terephthalate, polyethylene naphthalate, polyphenylene sulfide or polyimide (column 6, lines 50-58); and (4) wherein said heat resistant backing layer has a thickness of 1 to 250  $\mu\text{m}$  (column 6, lines 50-58).

Liu et al. fail to explicitly disclose: (a) a surface treated film layer; and (b) a non-aqueous adhesive composition. However, it should be noted that these are both product-by-process limitations. It has been found that, "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process," – *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see *MPEP* 2113).

Therefore, it appears that the tape of Liu et al. inherently or obviously satisfies the instant invention because all of the material limitations have been satisfied. This is the case regardless of whether or not the film is *generically (not chemically)* treated. Furthermore, the final (dried) product would have been free of carrier fluid (solvent), regardless of whether the adhesive composition was aqueous or non-aqueous.

Regarding claim 5, the prior art is as set forth above and incorporated herein to inherently or obviously satisfy the instant invention.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda et al. (WO 03/064552 A1).

Regarding claims 1-4, Takeda et al. disclose: *(1)* a heat resistant masking tape (Abstract; Example 1; claims 6-8), comprising: (1) a heat resistant, *surface-treated* backing film layer (Abstract; claims 6-8; Example); and (2) a pressure-sensitive adhesive layer disposed on the heat resistant backing film layer (Abstract; Example 1), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a *non-aqueous* monomer mixture comprising an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (Abstract; Example 1), glycidyl (meth)acrylate (Abstract; Example 1), and *acrylic acid* (Abstract; Example 1), the glycidyl (meth)acrylate being present in an amount of 2 to 13% by weight of the total weight of monomers (Example 1) and the *acrylic acid* being present in an amount of 1 to 7% by weight of the total weight of monomers (Example 1); *(2)* wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100  $\mu\text{m}$  (claims 6-8); *(3)* wherein said heat resistant backing film layer is a layer of polyethylene terephthalate, polyethylene naphthalate, polyphenylene sulfide or polyimide (claims 6-8); and *(4)* wherein said heat resistant backing layer has a thickness of 1 to 250  $\mu\text{m}$  (claims 6-8).

The teachings of Takeda et al. are deficient because: *acrylic acid* is used as the (meth)acrylate monomer having a carboxylic group, in Example 1. However, Takeda et al. also teach that acrylic acid and methacrylic acid are inter-changeably used as this component (*see page 7, lines 7-14*). In other words, they are equivalent monomers for this system – *see MPEP 2144.06*.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute acrylic acid with methacrylic acid in the composition of Takeda et al. because Takeda et al. disclose that these are equivalent (*and inter-changeable*) “(meth)acrylate monomers having carboxylic group” for this system.

Regarding claim 5, the prior art is as set forth above and incorporated herein to obviously satisfy the instant invention.

10. Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US 2003/0124346 A1).

Regarding claims 1, 2, and 4, Yamanaka et al. disclose: (1) a heat resistant masking tape (Abstract; paragraph 0001), comprising: (1) a heat resistant backing film layer (paragraph 0072); and (2) a pressure-sensitive adhesive layer disposed on the heat resistant backing film layer (paragraphs 0008-0015), wherein the pressure-sensitive adhesive layer comprises a polymer resulting from polymerizing and cross-linking a monomer mixture comprising an alkyl (meth)acrylate with an alkyl group having 4 to 15 carbon atoms (paragraphs 0020-0021), *an optional copolymerizable monomer* (paragraph 0023), and (meth)acrylic acid (paragraphs 0022), the *optional copolymerizable monomer* being present in an amount of 2 to 13% by weight of the



total weight of monomers (paragraph 0023) and the (meth)acrylic acid being present in an amount of 1 to 7% by weight of the total weight of monomers (paragraph 0022); (2) wherein said pressure-sensitive adhesive layer has a thickness of 0.5 to 100  $\mu\text{m}$  (paragraph 0072); and (4) wherein said heat resistant backing layer has a thickness of 1 to 250  $\mu\text{m}$  (paragraph 0072).

Yamanaka et al. disclose the use of an *optional copolymerizable monomer*, wherein the list of candidates includes glycidyl (meth)acrylate (*see paragraph 0023*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include glycidyl (meth)acrylate in the composition of Yamanaka et al. because they disclose the use of an optional copolymerizable monomer. The list of candidate monomers includes glycidyl (meth)acrylate.

Yamanaka et al. fail to explicitly disclose: (a) a surface treated film layer; and (b) a non-aqueous adhesive composition. However, it should be noted that these are both product-by-process limitations. It has been found that, “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process,” – *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (*see MPEP 2113*).

Therefore, it appears that the tape of Yamanaka et al. inherently or obviously satisfies the instant invention because all of the material limitations have been satisfied. This is the case regardless of whether or not the film is *generically (not chemically)* treated. Furthermore, the

final (dried) product would have been free of carrier fluid (solvent), regardless of whether the adhesive composition was aqueous or non-aqueous.

Regarding claim 5, the prior art is as set forth above and incorporated herein to inherently or obviously satisfy the instant invention.

11. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al. (US 2003/0124346 A1) in view of Groves (US 5,229,206) and Sobataka et al. (US H688).

Regarding claim 3, Yamanaka et al. disclose the use of polyester films (*see paragraph 0072*); however, they fail to explicitly disclose: (3) wherein said heat resistant backing film layer is a layer of *polyethylene terephthalate*, polyethylene naphthalate, polyphenylene sulfide or polyimide.

Groves also discloses acrylic PSA masking tapes (*see Abstract; column 7, lines 5-24*). Furthermore, they demonstrate that *polyethylene terephthalate* films are representative polyester films for this type of tape. Furthermore, Sobataka et al. disclose that corona discharge is recognized in the art as a suitable treatment for PET films. The corona discharge improves surface characteristics, such as adhesive properties of the PET films (*see column 1, lines 6-11*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a polyethylene terephthalate film in the masking tape of Yamanaka et al. because the teachings of Groves and Sobataka et al. demonstrate that corona treated *polyethylene terephthalate* films are representative polyester films for this type of tape.

***Response to Arguments***

12. Applicant's arguments with respect to the new product-by-process limitations in the pending claims have been considered but are moot in view of the new ground(s) of rejection.

13. Applicant's arguments with respect to the transitional language of new claim 5 have been fully considered but they are not persuasive. *Consisting essentially of* limits the scope of a claim to the specified materials or steps and those that do not materially affect the basic and novel characteristics of the claimed invention. Knapp's inclusion of lower alkyl acrylate does not appear to materially affect the basic and novel characteristics of the claimed invention - *see Applicant's own examples in Table 1*.

14. Applicant's arguments regarding the prior art status of Takeda et al. have been fully considered but they are not persuasive. A certified translation of the foreign priority document is required to disqualify this reference.

***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

*Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is (571)272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Feely/  
Primary Examiner, Art Unit 1796

March 31, 2008